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| **Biology Goals** | **Science Goals** | **Academic Goals** |
| Vocabulary: use correctly in writing and speaking.  Scientific vocabulary  Descriptive vocabulary    Create models to explain their understanding  Drawings, 3D, art, tech, and simple/complex). (need the most help with this)  Be able to find flaws in aspects of pseudoscience.  Variables?  Controls?  Bias?  Argue using evidence.  Do you agree/disagree?  Why?  Do you support/not support an argument? Why? Why not?  Define life, or what it means to be alive. How do you KNOW if something is alive or not (rock v. tree).  Cells, DNA, Reproduction, Growth and development, waste, require energy, respire, metabolism, homeostasis, etc.  Know careers that are possible with a Biology degree.  Doctor, scientist, genetic counselor, scientific illustrator, author, expert in biological law, animal husbandry, etc. bio tech,  Why all humans should care about the study of Biology (the bigger picture).  Favorite animal? Plant? Fungi? Bacteria? Virus? Organism? Why? (Sense of Wonder)  Sexual vs. Asexual reproduction  Define Biomimicry and give an example  Cause & effect  Patterns  Structure and Function | Scientific Method/Process   * Observe * Document/Collect Data * Write * Draw * Make a conclusion based on evidence * Conduct an experiment   Lab safety  Follow a step by step procedure    Analysis of information and resources  Scientifically literate  How can we trust science?  Social media science accounts to follow?  Correctly label figures, illustrations, photos, graphs, data tables, etc.  PREFIXES  How to properly use a microscope, including how to prepare a slide, etc.  Objectives  Lenses  Etc.  Magnification  Science is complex | Write a sentence.  Write a paragraph.  Write an argument based on evidence and examples.  Take notes.  Cornell  I.,A.,1.,a.,\* method (list)  Computer paper  Lined paper  Pens/pencils  Computer?  Organization  Time management  Self- accountability  Follow written directions in addition to verbal  How to use a textbook  Table contents  Index  Glossary  Headings  Figures  Vocabulary  How to use tech/phones for academic purposes (tips, tricks, etc.)  Set alarms  Calculator  Google  Calendar  Flashlight  Camera  Digital literacy/etiquette  Work, classrooms, meetings are NOT appropriate places to be on your phone for “fun”.  Use Analogies to explain phenomena |
| **DNA Sequencing Revolution Goals (teach along with Evolution???)** | **DNA Sequencing Revolution Vocabulary** |  |
| Compare and contrast DNA and RNA in words and drawings or additional models.  Describe the purpose, function, and structure of the following:   * DNA molecule * RNA molecule * Chromosomes * Genes   Be able to locate on a diagram, where in the cell DNA and RNA can be found. More than one answer depending on the organism.  Be able to explain the relationship between DNA, RNA, and Proteins.  4 key differences between mitosis and meiosis  How do we classify organisms?  Students should be able to describe how traits (positive, negative, neutral) gets passed down from parents to offspring over many generations.  Genomic Ethics  Inheritable diseases/conditions  Huntington’s  CF  Extra digits  Sickle Cell anemia (catch 22)    Nature vs. Nurture  Computer search/database practice activities- technology practice. Using technology as a tool.  Phylogenetic trees?  Create your own GMO | DNA  RNA  Progeny  Offspring  Gametes  Sperm  Egg  Organism  Chromosomes  Cell  Nucleus  Nuclear Membrane  Chloroplast  Organelles  Mitochondria  Ribosome  Proteins  Mitosis  Meiosis  Traits  Alleles  Genotype  Phenotype  Homozygous  Heterozygous  Homologous  Karyotype  Pedigree  Gregor Mendel  Rosalind Franklin  James Watson  Francis Crick  Charles Darwin  CRISPR  Classification, Classify  Eukaryotes  Prokaryotes  Eukaryotic  Prokaryotic  Unicellular  Multicellular |  |